

Proceedings of the Iowa Academy of Science

Volume 36 | Annual Issue

Article 38

1929

Studies of the Diurnal Fluctuations of Sap Hydrion Concentration in Young Wheat Plants

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Recommended Citation

Loehwing, Walter F. (1929) "Studies of the Diurnal Fluctuations of Sap Hydrion Concentration in Young Wheat Plants," *Proceedings of the Iowa Academy of Science*, 36(1), 242-242.

Available at: <https://scholarworks.uni.edu/pias/vol36/iss1/38>

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STUDIES OF THE DIURNAL FLUCTUATIONS OF SAP
HYDRION CONCENTRATION IN YOUNG
WHEAT PLANTS

WALTER F. LOEHWING

Diurnal fluctuations in the acidity of tissue fluids in six to ten week old wheat plants were followed by potentiometric pH measurements of sap freshly expressed from plants at various hours of the day. A daily average fluctuation of 1.5 pH was observed in young plants. The range of pH variation was appreciably extended by increased illumination, maximum acidity occurring during the early hours of daylight and thereafter falling steadily until the minimum was attained several hours after dark. This degree of pH fluctuation is correlated with variations in the osmotic pressure of expressed sap and thus important in modifying the solubility of nutrients.

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

CORRELATION OF NUMBER OF VASCULAR BUNDLES
AND CROSS-SECTIONAL AREA OF CORN STEM

A. L. HERSHEY

The investigations show the largest number of vascular bundles in the first and second internodes above the root system. In general the number of vascular bundles varies with cross-sectional area of internodes. In small stalks the number of bundles per unit area is slightly greater than in large stalks, and in internode above the ear slightly greater than in internodes below the ear.

IOWA STATE COLLEGE,
AMES, IOWA.

THE BOTANY OF THE RIO GRANDE VALLEY AND
ADJACENT MEXICO

L. H. PAMMEL

Attention is called to the distribution of the trees and shrubs, the resacas, and the abundance of native weeds in the region.

IOWA STATE COLLEGE,
AMES, IOWA.